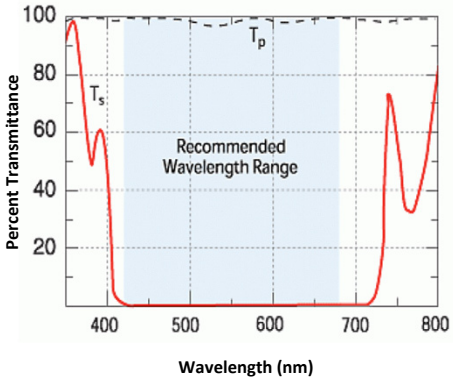
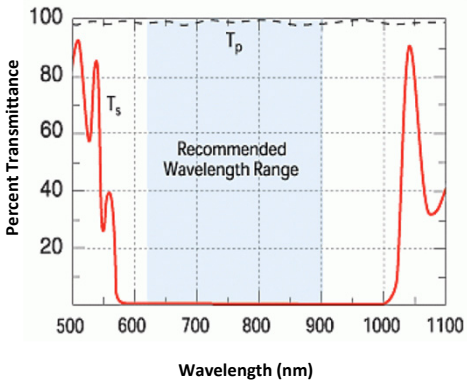
Broadband Beamsplitting Polarizer

For applications involving broadband or tunable wavelength sources, Meadowlark Optics presents a line of Broadband Beamsplitting Polarizers covering the visible to near infrared region. These cubes offer increased utility for a range of polarization needs. As with the Laser Line Beamsplitting Polarizers, two usable polarization forms result, conveniently separated by 90°. For unpolarized input, incident light will be equally split, 50% transmitted and reflected. Varying the input polarization axis will change the split ratio. These broadband designs require well-collimated input and accurate angular alignment for optimal performance. All four entrance and exit faces are antireflection coated to minimize losses.

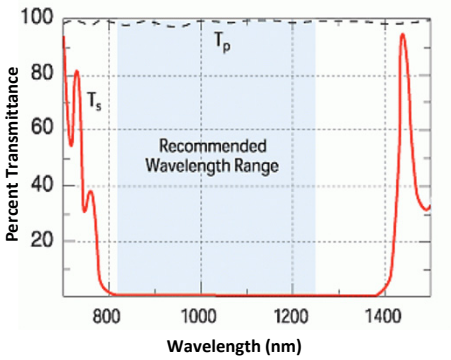
Design Performance of Visible Broadband Beamsplitting Polarizer



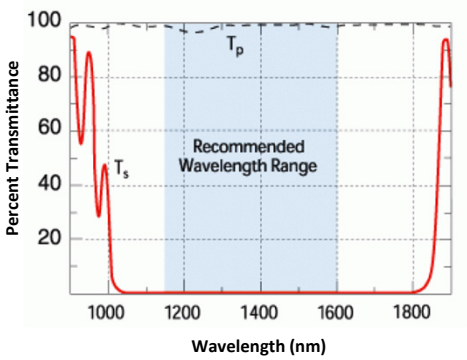
Design Performance of IR1 Broadband Beamsplitting Polarizer

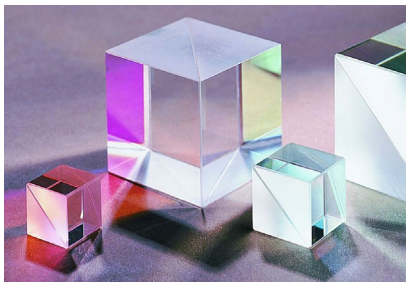


Design Performance of IR2 Broadband Beamsplitting Polarizer



Design Performance of IR3 Broadband Beamsplitting Polarizer





Key Features

- High contrast
- Low reflectance
- Broad spectral range
- High damage threshold

Polarization Suite

Linear Polarizers

Precision Linear Polarizer
High Contrast Linear Polarizer
Ultra-High Contrast Linear Polarizer
Glan-Thompson Polarizer
Ultra Broadband Polarizer
MWIR Polarizer
Deep Ultraviolet Polarizer

Beamsplitting Polarizers

Wire Grid Versalight Polarizer
Wire Grid Versalight Beam Splitter
Laser Line Beamsplitting Polarizer
Broadband Beamsplitting Polarizer
Polarizing Bandpass Filter

Circular Polarizers

Dichroic Circular Polarizer
Beam Separator

SPECIFICATIONS

Wavelength Range	
Visible **Near IR1** **Near IR2** **Near IR3**	440 – 680 nm 620 – 900 nm 820 – 1250 nm 1150 – 1600 nm
Substrate Material	SF 2
Transmitted Wavefront Distortion (at 632.8 nm)	≤ λ/5 for p-polarized beam
Beam Deviation	
Transmitted **Reflected**	≤ 3 arc-min ≤ 6 arc-min
Reflectance (per surface)	≤ 0.5%
Contrast Ratio	
Transmitted **Reflected**	≥ 500:1 ≥ 20:1
Transmission	
p-polarized light **s-polarized light**	≥ 95% transmitted ≥ 98% reflected
Clear Aperture	Central 80% diameter
Acceptance Angle	± 2˚
Storage Temperature	-40˚C to +100˚C
Operating Temperature	-40˚C to +100˚C
Laser Damage Threshold	500 W/cm^2, CW 300 mJ/cm^2, 10 ns, visible 200 mJ/cm^2, 10 ns, at 1064 nm

ORDERING INFORMATION

Clear Aperture	***Dimensions ± 0.020 in. (± 0.51 mm)***	***Part Number***
Visible (440-680)		
0.40 × 0.40 × 0.40 (10.2 x 10.2 x 10.2 mm)	0.50 × 0.50 × 0.50 (12.7 x 12.7 x 12.7 mm)	BB – 050 – VIS
0.80 × 0.80 × 0.80 (20.3 × 20.3 × 20.3 mm)	1.00 × 1.00 × 1.00 (25.4 × 25.4 × 25.4 mm)	BB – 100 – VIS
Near IR1 (620-900 nm)		
0.40 × 0.40 × 0.40 (10.2 x 10.2 x 10.2 mm)	0.50 × 0.50 × 0.50 (12.7 x 12.7 x 12.7 mm)	BB – 050 – IR1
0.80 × 0.80 × 0.80 (20.3 × 20.3 × 20.3 mm)	1.00 × 1.00 × 1.00 (25.4 × 25.4 × 25.4 mm)	BB – 100 – IR1
Near IR2 (820-1250 nm)		
0.40 × 0.40 × 0.40 (10.2 x 10.2 x 10.2 mm)	0.50 × 0.50 × 0.50 (12.7 x 12.7 x 12.7 mm)	BB – 050 – IR2
0.80 × 0.80 × 0.80 (20.3 × 20.3 × 20.3 mm)	1.00 × 1.00 × 1.00 (25.4 × 25.4 × 25.4 mm)	BB – 100 – IR2
Near IR3 (1150-1600 nm)		
0.40 × 0.40 × 0.40 (10.2 x 10.2 x 10.2 mm)	0.50 × 0.50 × 0.50 (12.7 x 12.7 x 12.7 mm)	BB – 050 – IR3
0.80 × 0.80 × 0.80 (20.3 × 20.3 × 20.3 mm)	1.00 × 1.00 × 1.00 (25.4 × 25.4 × 25.4 mm)	BB – 100 – IR3

Custom sizes available.